UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
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OFFICE OF
ENVIRONMENTAL ASSESSMENT

October 2, 2015

MEMORANDUM

SUBJECT: Partial Compliance Evaluation Clean Air Act Inspection
Columbia Pacific Biorefinery – Clatskanie, Oregon

FROM: Zach Hedgpeth, PE
Environmental Engineer, ESU, OEA

TO: Scott Downey, Unit Manager
Air and RCRA Compliance Unit, OCE

Sandra Brozusky and I conducted an announced partial compliance evaluation inspection at the Columbia Pacific Biorefinery in Clatskanie, OR on Friday, September 25, 2015. The inspection was arranged on Monday, September 21, 2015 when I called Dan Luckett, facility general manager, to inquire about the operational schedule for that week.

At the time of the inspection, the facility had recently completed unloading oil from twelve railcars and was actively loading oil onto a barge. Accordingly, we observed barge loading operations but did not observe railcar unloading operations.

The inspection was limited to a general facility tour and observations using a FLIR GF320 infrared gas imaging camera. During the inspection, the following were observed using the FLIR camera:

- Empty railcars following the unloading of Bakken crude oil.
- Two 100,000 barrel above ground storage tanks containing Bakken crude oil.
- Loading of Bakken crude oil into a 150,000 barrel capacity barge.

This memo contains only short summaries and descriptions of the infrared videos collected during the inspection. The following table lists the videos recorded:

FLIR Video Description	FLIR Video File	Time
railcar gauging	MOV_0363.mp4	11:30
demonstration of open gauging valve on railcar	MOV_0364.mp4	11:37
tank 6105 eyebrow vents	MOV_0365.mp4	12:21
tank 6105 eyebrow vents	MOV_0366.mp4	12:26
tank 6105 eyebrow vents	MOV_0367.mp4	12:34
tank 6106 eyebrow vents	MOV_0368.mp4	12:37
marine loading combustion unit stack	MOV_0369.mp4	12:58

FLIR Video Description	FLIR Video File	Time
marine vapor collection line on barge	MOV_0370.mp4	13:24
accidental recording	MOV_0371.mp4	13:25
overview of barge	MOV_0372.mp4	13:28

The following observations and notes provide additional description and contextual information for the video recordings.

1. Video 363 depicts railcar gauging. We observed facility personnel open a ball valve within the housing on top of the railcar and insert a segmented rod through the valve in order to measure the depth of oil within the railcar. On this measurement, the liquid depth was reported as six inches. Facility personnel reported that this gauging task is normally performed on a subset of each batch of cars unloaded. The facility railcar unloading equipment can accommodate 12 railcars in each batch.
2. Video 364 shows a demonstration of opening the ball valve used in railcar gauging. The facility stated that these ball valves are not opened except for use during railcar gauging. We requested that the ball valve be opened in order to determine whether the railcars contained vapors. The video clearly shows a plume of hydrocarbon gas being released from the open ball valve indicating that the railcars are filled with gaseous hydrocarbons following unloading of the crude oil. The plume stops when the valve is closed.
3. Facility personnel reported during recording of videos 365-368 that tank 6105 was receiving crude oil which was being pumped from the railcar unloading rack, while crude oil from tank 6106 was being pumped to the barge. Hydrocarbon gas emissions are evident from tank 6105, while video 368 of tank 6106 is less conclusive.
4. Video 369 of the marine vapor control combustion unit exhaust stack shows a strong heat signature of the exhaust gasses which is consistent with information provided by a facility representative that exhaust gas temperatures are in the neighborhood of 2,000° F.
5. At the time of inspection, no leaks were identified in the marine vapor collection line as indicated by video 370. Video 372 documents that no other hydrocarbon gas emissions were observed from the barge loading operation during the inspection. The two emission points visible in Video 372 were identified by the facility as diesel generators operating for purposes of barge operations.

I have placed copies of the infrared videos on the shared drive at the following path: G:\Baker\Hedgpeth\CPB\2015 PCE\FLIR Videos

If you have any questions about this memo, please call me at 3-1217.

C: Mark Filippini, Unit Manager, ESU, OEA
Alex Fidis, ORC